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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Peter Rosenthal	01/18/2008
Carlos A. Duran	01/22/2008
Alexei Maznev	01/23/2008
Alexander Mazurenko	01/15/2008

RECEIVING PARTY DATA

Name:	Advanced Metrology Systems LLC	
Street Address:	12 Michigan Drive	
City:	Natick	
State/Country:	MASSACHUSETTS	
Postal Code:	01760	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	11994763

CORRESPONDENCE DATA

Fax Number: (617)523-1231

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 617-570-1098

Email: lgunturi@goodwinprocter.com

Correspondent Name: Goodwin Procter LLP Attn: Patent Admin

Address Line 1: Exchange Place, 53 State Street
Address Line 4: Boston, MASSACHUSETTS 02109

ATTORNEY DOCKET NUMBER:	AMS-001
NAME OF SUBMITTER:	Steven J. Frank

Total Attachments: 16

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PATENT REEL: 020663 FRAME: 0342

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WHEREAS, We, Peter Rosenthal, Carlos A. Duran, Alexei Maznev, and Alexander Mazurenko have invented one or more inventions described in an application for Letters Patent of the United States entitled:

METHOD OF MEASURING DEEP TRENCHES WITH MODEL-BASED OPTICAL SPECTROSCOPY

	and ide	entified by
to be fil	led in th	Attorney Docket No. AMS-001, and/or executed by us on even date herewith and about e United States Patent Office; and
	\boxtimes	Serial No. 11/994,763 filed in the United States Patent Office on <u>January 4, 2008</u> ; and
	илтър	TAGAL INC. L. G LLG. L. G. (AGGYGYTTM) U.S. LULUS

WHEREAS, Advanced Metrology Systems LLC (hereinafter "ASSIGNEE"), a limited liability corporation organized and existing under the laws of the State of Delaware, and having a usual place of business at 12 Michigan Drive, Natick, MA 01760, desires to acquire an interest therein, in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, our entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to the invention(s) described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue thereon or claim priority under United States law or international convention, including but not limited to non-provisionals, continuations, divisionals, reissues, reexaminations, extensions, and substitutions of said application or such Letters Patent, and any right, title and interest we may have in provisional applications to which said application claims priority; said invention(s), applications and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all of our rights arising under or pursuant to any and all United States laws and international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent, including but not limited to any cause(s) of action and damages accruing prior to this assignment. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said invention(s), carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all Letters Patent to ASSIGNEE in its own name as assignee of our entire right, title and interest therein;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention(s) to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including the execution of non-provisional,

substitution, continuation, divisional, reissue, reexamination, or corresponding foreign or international patent applications;

AND, we hereby further agree to provide statements or testimony in any interference or other proceeding in which said invention(s) or any application or patent directed thereto may be involved;

AND, we hereby authorize ASSIGNEE or its attorneys or agents to insert the correct serial number and filing date into this assignment, if none is indicated on the date of our execution of this assignment;

AND, we hereby authorize and request the Director of the United States Patent and Trademark Office and the empowered officials of all other governments to issue such Letters Patent as shall be granted upon said application, or applications based thereon, to said ASSIGNEE, its successors, assigns, or legal representatives.

IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals on the date(s) set forth below.

Inventor:

State/Commonwealth of Connecticuty
County of Hartford) ss Simsbury

On this 18th day of January, 2008 before me, the undersigned Notary Public, personally appeared Peter Rosenthal, proved to me through satisfactory evidence of identification, which was/were CT Driver's License, to be the person whose name is signed on the preceding or attached document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Susan B. Mazuski Signature of Notary

(Seal)

My Commission Expires: $\sqrt{2-3}/-2009$

			Inventor:	
				Carlos A. Duran
State/Commonwea County of	lth of)) ss		
appeared Carlos A.	Duran, proved, to be swore or affirm	to me through the person when the to me that	satisfactory exhose name is si	ne undersigned Notary Public, personally vidence of identification, which was/were igned on the preceding or attached of the document are truthful and accurate to
Signature of Notary				(Seal)
My Commission Ex				
			Inventor:	Alexei Maznev
State/Commonwea County of	lth of)) ss		
appeared Alexei Ma	znev, proved to	me through s	satisfactory evi	ne undersigned Notary Public, personally idence of identification, which was/were gned on the preceding or attached
	swore or affirm	ned to me that		f the document are truthful and accurate t
Signature of Notary	· · · · · · · · · · · · · · · · · · ·			(Seal)

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		Inventor:
		Alexander Mazurenko
State/Commonwealt	th of) ss	
appeared Alexander I was/wereattached document, as	Mazurenko, proved to me th , to be the	before me, the undersigned Notary Public, personally rough satisfactory evidence of identification, which person whose name is signed on the preceding or o me that the contents of the document are truthful and ief.
Signature of Notary		(Seal)
My Commission Exp	ires:	

WHEREAS, We, Peter Rosenthal, Carlos A. Duran, Alexei Maznev, and Alexander Mazurenko have invented one or more inventions described in an application for Letters Patent of the United States entitled:

METHOD OF MEASURING DEEP TRENCHES WITH MODEL-BASED OPTICAL SPECTROSCOPY

Attorney Docket No. AMS-001, and/or executed by us on even date herewith and about to be filed in the United States Patent Office; and

and identified by

Serial No. 11/994,763 filed in the United States Patent Office on <u>January 4, 2008</u>; and

WHEREAS, Advanced Metrology Systems LLC (hereinafter "ASSIGNEE"), a limited liability corporation organized and existing under the laws of the State of Delaware, and having a usual place of business at 12 Michigan Drive, Natick, MA 01760, desires to acquire an interest therein, in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, our entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to the invention(s) described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue thereon or claim priority under United States law or international convention, including but not limited to non-provisionals, continuations, divisionals, reissues, reexaminations, extensions, and substitutions of said application or such Letters Patent, and any right, title and interest we may have in provisional applications to which said application claims priority; said invention(s), applications and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all of our rights arising under or pursuant to any and all United States laws and international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent, including but not limited to any cause(s) of action and damages accruing prior to this assignment. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said invention(s), carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all Letters Patent to ASSIGNEE in its own name as assignee of our entire right, title and interest therein;

AND, we hereby further agree for ourselves and our executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention(s) to said ASSIGNEE, its successors, assigns, and legal representatives, but at its or their expense and charges, including the execution of non-provisional,

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IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals on the date(s) set forth below.

	Inventor:
	Peter Rosenthal
State/Commonwealth of County of)) ss
appeared Peter Rosenthal, proved , to be	, 200 before me, the undersigned Notary Public, personally to me through satisfactory evidence of identification, which was/were the person whose name is signed on the preceding or attached ned to me that the contents of the document are truthful and accurate pelief.
Signature of Notary	(Seal)
My Commission Expires:	

Attorney Docket No. AMS-001 Page 3 of 4 Inventor: State Commonwealth of New York County of St. Lawrence On this 222d day of 100000, 2008 before me, the undersigned Notary Public, personally appeared Carlos A. Duran, proved to me through satisfactory evidence of identification, which was/were us. Passport, to be the person whose name is signed on the preceding or attached document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief. Likke Marie Dautley
Signature of Notary (Seal) My Commission Expires: 12/30/2010 ANNA MARIE DAWLEY
Notary Public, State Of New York
No. #01DA6085499
Qualified In St. Lawrence County Commission Expires Dec. 30, 20 10 Inventor: Alexei Maznev

Joint Assignment

State/Commonweal County of	th of)) ss	
	znev, proved to	me through s	before me, the undersigned Notary Public, personally satisfactory evidence of identification, which was/were nose name is signed on the preceding or attached
document, and who s the best of his/her kn	swore or affirm	ed to me that	the contents of the document are truthful and accurate to
Signature of Notary			(Seal)

LIBA/1857949.1

	Inventor:	
		Alexander Mazurenko
State/Commonwealth of)	
County of) ss	
appeared Alexander Mazurenko was/were	o, proved to me through satisf , to be the person who vore or affirmed to me that the	, the undersigned Notary Public, personally factory evidence of identification, which use name is signed on the preceding or e contents of the document are truthful and
		(Seal)
Signature of Notary		
My Commission Expires:		

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METHOD OF MEASURING DEEP TRENCHES WITH MODEL-BASED OPTICAL SPECTROSCOPY

and identified by

to be fil		Attorney Docket No. AMS-001, and/or executed by us on even date herewith and about e United States Patent Office; and
	\boxtimes	Serial No. 11/994,763 filed in the United States Patent Office on <u>January 4, 2008</u> ; and
	WHER	EAS, Advanced Metrology Systems LLC (hereinafter "ASSIGNEE"), a limited liability

WHEREAS, Advanced Metrology Systems LLC (hereinafter "ASSIGNEE"), a limited liability corporation organized and existing under the laws of the State of Delaware, and having a usual place of business at 12 Michigan Drive, Natick, MA 01760, desires to acquire an interest therein, in accordance with agreements duly entered into with us;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns, and legal representatives, our entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to the invention(s) described in said application, together with our entire right, title and interest in and to said application and such Letters Patent as may issue thereon or claim priority under United States law or international convention, including but not limited to non-provisionals, continuations, divisionals, reissues, reexaminations, extensions, and substitutions of said application or such Letters Patent, and any right, title and interest we may have in provisional applications to which said application claims priority; said invention(s), applications and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by us had this assignment and sale not been made; we hereby convey all of our rights arising under or pursuant to any and all United States laws and international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent, including but not limited to any cause(s) of action and damages accruing prior to this assignment. We hereby acknowledge that this assignment, being of our entire right, title and interest in and to said invention(s), carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all Letters Patent to ASSIGNEE in its own name as assignee of our entire right, title and interest therein;

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		Inventor:
		Peter Rosenthal
State/Commonwealth of County of)) ss	_
appeared Peter Rosenthal, prove , to	d to me through be the person wh irmed to me that	_ before me, the undersigned Notary Public, personally satisfactory evidence of identification, which was/were hose name is signed on the preceding or attached the contents of the document are truthful and accurate to
Signature of Notary		(Seal)
My Commission Expires:		

	In	ventor:	
		Carlos A. Du	iran
State/Commonwealth of County of)) ss		
On this day of appeared Carlos A. Duran, proved to n, to be the document, and who swore or affirmed the best of his/her knowledge and believed.	ne through satist person whose n to me that the co	actory evidence of identitation ame is signed on the prec	fication, which was/were eding or attached
Signature of Notary		(Seal)	
My Commission Expires:	***************************************		
	Inve	entor: Alexei Mazne	Luy -
State/Commonwealth of)	THOMOT HARDING	V
County of) ss		
On this 33 day of an u an appeared Alexei Maznev, proved to me have been included, to be the document, and who swore or affirmed the best of his/her knowledge and belief	person whose note to me that the co	ame is signed on the prece	eding or attached
Signature of Notary		On this 3 day of Sent	personally appeared of identification, which were had brive, like seems the preceding or attached document and
		ROBERT A. MURRAY, Notary Pu My Commission Expires July 25,	blic 2014

LIBA/1857949.1

Alexander Mazurenko
undersigned Notary Public, personally y evidence of identification, which me is signed on the preceding or tents of the document are truthful and
(Seal)

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METHOD OF MEASURING DEEP TRENCHES WITH MODEL-BASED OPTICAL SPECTROSCOPY

	and ide	entified by
to be fi	led in th	Attorney Docket No. AMS-001, and/or executed by us on even date herewith and about e United States Patent Office; and
	\boxtimes	Serial No. 11/994,763 filed in the United States Patent Office on January 4, 2008; and
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WHEREAS, Advanced Metrology Systems LLC (hereinafter "ASSIGNEE"), a limited liability corporation organized and existing under the laws of the State of Delaware, and having a usual place of business at 12 Michigan Drive, Natick, MA 01760, desires to acquire an interest therein, in accordance with agreements duly entered into with us;

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IN TESTIMONY WHEREOF, we have hereunto set our hands and affixed our seals on the date(s) set forth below.

		Inventor:
		Peter Rosenthal
State/Commonwealth of County of)) ss	
appeared Peter Rosenthal, proved, to b	to me through the the person who med to me that	_ before me, the undersigned Notary Public, personally satisfactory evidence of identification, which was/were hose name is signed on the preceding or attached the contents of the document are truthful and accurate to
Signature of Notary		(Seal)
My Commission Expires:		

		Inventor:
		Carlos A. Duran
State/Commonwealth of County of)) ss	
appeared Carlos A. Duran, proved to, to be th	me through ne person w d to me tha	before me, the undersigned Notary Public, personally h satisfactory evidence of identification, which was/were hose name is signed on the preceding or attached t the contents of the document are truthful and accurate to
Signature of Notary		(Seal)
My Commission Expires:		
		Inventor: Alexei Maznev
State/Commonwealth of County of)) ss	
appeared Alexei Maznev, proved to m, to be the	ne through a e person wl	_ before me, the undersigned Notary Public, personally satisfactory evidence of identification, which was/were hose name is signed on the preceding or attached
document, and who swore or affirmed the best of his/her knowledge and beli		the contents of the document are truthful and accurate to

Inventor: Mazurenho
Alexander Mazurenko

State/Commonwealth of HASS.)
County of NORFOLIC) ss

On this 15th day of January, 2008 before me, the undersigned Notary Public, personally appeared Alexander Mazurenko, proved to me through satisfactory evidence of identification, which was/were ______, to be the person whose name is signed on the preceding or attached document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his/her knowledge and belief.

Signature of Notary

RECORDED: 03/18/2008

(Seal)

My Commission Expires: 06/03/2011

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